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ABSTRACT

To determine whether preservice teachers would demonstrate a significant change in level of teacher enthusiasm after participating in a training intervention on teacher enthusiasm, and whether these same preservice teachers could maintain the increased level of teacher enthusiasm three weeks after termination of training, twenty preservice teachers were randomly assigned to either an experimental training group or to a control group. The experimental group was trained to increase their level of teacher enthusiasm through class discussions, peer teaching, and microteaching with public school children. Eight teacher behaviors were identified as descriptors of teacher enthusiasm: (1) vocal delivery; (2) eyes; (3) gestures; (4) movements; (5) facial expression; (6) word selection; (7) acceptance of ideas and feelings; and (8) over-all energy. Data were gathered on the eight teacher characteristics by videotaping the experimental and control groups before and three weeks after the training intervention. Two trained observers rated each of the video tapes on a 5-point scale without knowledge of which preservice teachers were in the experimental or control groups or whether the taping was pre- or post-training. Analysis of the data indicates that the overall performance of the experimental group significantly increased after training and that each of the variables contributed significantly to this increase. The results, therefore, support the theory that it is possible to train a preservice teacher to increase his level of enthusiasm as described by the eight variables. (MM)

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THE EFFECTS OF TRAINING FOR ENTHUSIASM ON THE ENTHUSIASM DISPLAYED BY PRESERVICE ELEMENTARY TEACHERS*

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ABSTRACT

THE EFFECTS OF TRAINING FOR ENTHUSIASM ON THE ENTHUSIASM OF PRESERVICE TEACHERS

Twenty preservice elementary teachers, randomly assigned - ten to an Experimental Group and ten to a Control Group, were used in this investigation to determine: 1) whether preservice teachers would demonstrate a significant increased level of teacher enthusiasm after participating in a training intervention on teacher enthusiasm; and 2) whether these same preservice teachers could maintain the increased level of teacher enthusiasm three weeks after the termination of training. Eight teacher behaviors were identified as descriptors of teacher enthusiasm: 1) vocal delivery, 2) eyes, 3) gestures, 4) movements, 5) facial expression, 6) word selection, 7) acceptance of ideas and feelings and 8) over-all energy level. Training the experimental group to increase their level of teacher enthusiasm based on these eight variables included class discussions, peer teaching and micro-teaching with public school children.

Data were gathered on the above teacher characteristics by video taping both the Experimental and Control Groups prior to any training, immediately after training and three weeks after the completion of training. Two trained observers rated each of the sixty tapes based on a 5-point scale without knowing which pre-service teachers were in the Experimental or Control Groups or the order of the taping.

On the basis of the results recorded by the raters, and using the following analyses, a two-factor mixed design--repeated measures on one factor, simple effects, t-tests, and correlations, it was found that:

a) training in teacher enthusiasm significantly increased the observable level of teacher enthusiasm ($<.001+$) of the preservice teachers, b) that these same preservice teachers were able to maintain a significantly increased level of enthusiasm ($<.001$) three weeks after completion of the training, c) the high reliability coefficients indicated that the variables were maintaining their consistency across different testing periods and also established the reliability of the instrument, and d) the performance of the preservice teachers in the Experimental Group in <u>each</u> variable showed a significantly greater increase over the performance of the preservice teachers in the Control Group.

INTRODUCTION

Teacher education in the 1960's and into the 1970's continues to experience dramatic changes particularly in the training of teachers. It seems reasonable to assume that the goal of all teacher education institutions is, and has always been to train competent professionals to teach in public schools (Elam, 1967). In the past, this was accomplished by satisfactorily completing courses at a college or university and student teaching in a public school. Little attempt was made to systematically coordinate this instruction with the performance in the field (Peck & Tucker, 1973). If a student teacher were able adequately to demonstrate knowledge on campus, modeling with the master teacher and a willingness to incorporate a supervisor's recommendations into practice (particularly in his/her presence), then the student became a certified teacher.

Today, education is in an era of accountability (Clifford, 1973). The public is demanding that the schools be held responsible for their students' learning,

and when it doesn't accept the results, it votes against school budgets. Many teacher training institutions have accepted the accountability challenge and have become part of the Competency Based Teacher Education (CBTE) movement. In fact, Karl Massanari, Director, PBTE Project (1973), reported that out of 783 teacher training institutions responding to a nationwide survey, 71 per cent indicated that they were involved in this movement. The unique features of a good teacher education program are a sincere effort of the planners to: 1) identify the teacher outcomes to be demonstrated in advance, and 2) specify the conditions and criteria for assessing these outcomes.

Thus, in a CBTE program a teacher training institution must go "public" in identifying those teaching competencies which they expect their graduates to be able to demonstrate. After this initial identification they are then organized into a meaningful system so that one proceeds through the program in a logical sequence. Since there is a heavy emphasis on assessing and measuring these competencies, there is the danger that many of the competencies will be in the cognitive area and that the affective domain will be neglected. This was

the same concern of the authors of Taxonomy of Educational Objectives, Handbook II: Affective Domain, when they stated:

> . . . Educational objectives in this (affective) domain tend to be statements of desirable but undefined virtues. As long as the affective objectives remain in this empty and airy limbo, there is little that is likely to be done in the school either in evaluation or in the providing of appropriate learning experiences. If affective objectives can be defined with appropriate precision, we believe it may be no more difficult to produce changes in students in this domain than it has been in the cognitive domain . . . [Krathwohl et al., 1964, p. 76].

This statement is applicable today in identifying teacher training objectives as CBTE programs evolve. The need is to identify an inclusive list of competencies which incorporates those teaching behaviors that are difficult to measure and to train for, but appear to be effective in helping pupils to learn or just "make sense" until research indicates otherwise. After these outcomes are identified and their assessment criteria determined, then providing the needed experiences which will lead to a demonstration of these outcomes is necessary.

Significance and Need of the Study

As one reviews the literature relating to educational research, he/she will soon become aware of the dearth of research pertaining to the measurement of teacher behavior and the relationship between teacher behavior and student achievement. Teachers want to believe that certain teacher characteristics or teacher performances can produce or influence specific student behaviors (Ryans, 1957, 1960; Mitzel, 1960). Many teachers and researchers also agree or felt it was worthy of further study that increasing the amount of a desired teacher behavior will have the same result on pupil behavior--increasing the effective behavior (Jayne, 1945; Anderson & Brewer, 1946; Withall, 1952; Cogan, 1958; Christensen, 1960; Gagne, 1960).

Rosenshine and Furst (1971) reviewed about fifty studies which attempted to analyze the relationship between teacher behavior and pupil gain. They identified eleven teacher characteristics which seemed to be significant: clarity, variability, enthusiasm, task-oriented behaviors, student opportunity to learn criterion material, use of student ideas and general

indirectness, criticism, use of structuring comments, types of questions, probing, and level of difficulty of instruction. The major criticisms of this review (Heath & Neilson, 1973; Gall, 1973) were the lack of agreement in the area of student achievement measures and the identification and measurement of teacher behavior. However, the basic reason for this review was to plead for more research in this area.

Robert Soar (1973) discussed the problem of measuring teacher effectiveness based on pupil gain and felt that it may be more promising to examine the measurement of teacher behavior. Since the 1960's, research literature in this area has increasingly changed from high inference measures (ratings) to intermediate and low inference measures (systematic observations). These systematic observations seem to provide encouraging results. He stated in his report:

> The caution of the researcher about implementing a procedure which still needs extensive work is surely appropriate; yet in comparison to the alternatives, observational methods seem the most hopeful. They do not create pressure for the teacher to stress low level objectives. They avoid a series of measurement problems which are difficult, if not disabling. They measure the performance which is most directly under the

> control of the teacher. They permit the faculty and administration of a school or system to agree on valued teaching behaviors with a minimum of misunderstanding. They give the teacher feedback on his teaching behavior. They permit the teacher to apply the research findings which do exist relatively directly. If programs of accountability on competency-based teacher education are to be implemented, systematic observation appears to be one of the more promising assessment procedures for measuring teaching skill [Soar, 1973, p. 211].

He also stressed the need for a great deal of research and development in measuring teacher behavior.

The next step after identifying and measuring a particular desirable teacher characteristic is determining if it is possible to provide training or increase the level of proficiency in it. It is anticipated that this study will contribute to the research pertaining to identifying the variables that define a teaching behavior, providing a systematic observation system to measure this behavior, and preparing a short-term training program in the variables that describe this teaching behavior.

Of the eleven teacher characteristics designated by Rosenshine and Furst (1971), the one selected for study by this researcher was teacher enthusiasm.

Therefore the specific purpose of this research was to determine whether preservice teachers would exhibit increased teaching enthusiasm after a training intervention on enthusiasm.

The need for a training intervention on increasing the displayed level of teacher enthusiasm of preservice teachers became apparent to this researcher when working with a preservice teacher who had received an incomplete in student teaching. She was attempting to improve her teaching skills in micro-teaching sessions and after viewing a video-tape of her teaching skills remarked: "I look bored, I sound bored and the children are bored." The supervisor, unable to find any reference to training in teacher enthusiasm, devised a rather crude list of descriptors of enthusiasm and training which the student implemented and refined while micro-teaching. After returning to the total class and teaching a lesson, the cooperating teacher remarked that the preservice teacher had had her most successful teaching based on pupils' responses immediately after the micro-teaching session on increasing her observable level of teacher enthusiasm.

It is hoped that this research will contribute to the information on identifying the behaviors that specify teacher enthusiasm by measuring the observable level of teaching with enthusiasm of preservice teacher and determining the effectiveness of a training intervention in the categories that define teacher enthusiasm. This information should have meaning for those involved in training preservice teachers and those involved in researching teacher characteristics.

If positive effects of the intervention are found then this study may also have particular significance for those teacher training institutions that may currently consider deselecting students on this basis of a lack of personality traits such as demonstrated evidence in teacher enthusiasm as defined herein.

Problem

The specific research problem in this study was to determine whether or not a training intervention designed to increase competence in teacher enthusiasm would modulate the level of teacher enthusiasm of preservice teachers. This investigation was aimed at determining whether preservice teachers in the early

stages of their training program would demonstrate a significant increased level of teacher enthusiasm after participating in a training intervention on teacher enthusiasm. The variables which were used to identify and measure the level of a teacher's enthusiasm in a classroom were: 1) vocal delivery, 2) eyes, 3) gestures, 4) body movements, 5) facial expression, 6) word selection, 7) acceptance of ideas and feelings, and 8) overall energy level. These were derived from three sources: studies on teacher enthusiasm as reported by Rosenshine (1970), observations and a pilot study of this research by the author, and the opinions of five teacher educators recognized in the field. The definitions of these specific teaching behaviors are as follows:

1. Vocal Delivery . . . . . rapid, excited speech; varied, lilting, uplifting intonations; great and sudden changes in tone, pitch.
2. Eyes . . . . . dancing, snapping, shining, lighting up, open wide.
3. Gestures . . . . . frequent demonstrative movements of the body, head, arms, hands, and face.
4. Movements . . . . . large body movements, swings around, changes pace, bends body.

5. Facial Expression . . . changes denoting surprise, sadness, joy, thoughtfulness, awe.

6. Word Selection . . . . . highly descriptive, many adjectives, great variety.

7. Acceptance of Ideas and Feelings . . . . . quickly with vigor and animation, ready to accept, praise, encourage or clarify in a nonthreatening manner.

8. Over-all Energy Level . . . explosive, exuberant.

Hypotheses

It was hypothesized that:

H_1: Preservice elementary teachers will show a significant increase in their observable level of enthusiasm while teaching after enthusiasm training sessions.

H_2: This training effect has staying power as shown by its observability three weeks after the intervention.

Subjects

Twenty preservice elementary teachers, who had registered to take a mini-course on Teacher Enthusiasm in the Spring of 1975 became the subjects for this study. They were unaware that this was a research project. They accepted dividing the class and random assignment because of the highly individualizing training procedure. The course requirements included an (unspecified) number of video-taped teaching sessions in a classroom. Taping was done by the instructor/researcher of teacher enthusiasm, and the instructor of the A-V mini-course who was known by the preservice teachers. The cooperating teachers and pupils in the teaching centers were also familiar with the video camera and equipment.

These preservice teachers were in the second semester of a sequential CBTE program. In the first two semesters these preservice teachers spend approximately one-half of their time in instruction and the other half in a teaching center gaining experience in teaching. During the 3rd semester these students are involved in teaching and related activities full time. These twenty students were randomly assigned to two groups, ten to the Experimental Group and ten to the Control Group.

These students already had experience teaching in a teaching center during their first semester field experience. During their second semester, they were also assigned to elementary

schools and were actively teaching during the time these data were gathered. Their program in teacher training had changed from the traditional education courses to seminars, lectures, workshops and mini-courses. Most had participated in peer teaching and half had been involved in micro-teaching. All twenty had observed and listened to themselves on audio-video tape.

Training Intervention (2-Week Duration)

1. Group Instruction

The Experimental Group met with the instructor (researcher). The first three class sessions each lasting two hours and held on consecutive days, were held on campus during the Spring Semester, 1975. During the first session, Monday, a discussion ensued on the identification of teacher characteristics based on teachers they admired. These were listed on the board. Teacher enthusiasm was singled out and the instructor discussed some of the studies relating to teacher enthusiasm. The subjects were asked to describe an enthusiastic teacher; the descriptors were listed on the board and a discussion of these descriptors as well as descriptors of an unenthusiastic teacher followed. The instructor then distributed the sheets that describe the eight variables of teacher behaviors that convey teacher enthusiasm on low, medium, high levels. The students read and discussed these variables.

The ten students were then given the assignment to teach a ten-minute lesson to their peers during the next two sessions. They could select the topic and teach a lesson for their peer-age group or a particular school grade.

2. Peer Teaching

In the second and third sessions, Tuesday and Wednesday, after remlnding the class that the focus of observations and discussion would be teacher enthusiasm as described on the sheets distributed to them in the last session, each student was audio-video taped teaching a ten-minute lesson to seven of his/her peers. Two of the students acted as observer-raters and rated the pre-service teacher on a skill sheet that listed the eight variables which describe teacher enthusiasm. As each student completed his/her teaching, feedback was given first by the preservice teacher on his/her reactions to the quality of teaching enthusiasm of his/her performance. Feedback from the raters based on their observations as related to the variables followed. All students participated in this discussion and the video-tape was replayed to reinforce those times when the teacher demonstrated teaching with enthusiasm as well as to point out incidents where enthusiasm could have been increased. Students alternated roles between teacher and student until each of the ten preservice teachers had completed the peer teaching assignment.

3. Micro-Teaching

The instructor met each preservice teacher at his/her field setting for a micro-teaching session on Teacher Enthusiasm. These sessions lasted a total of six days - Thursday to Thursday. The following procedure was used for micro-teaching:

a. Preconferencing -- review of teaching behaviors which describe teacher enthusiasm.

b. Instructor video-taped the preservice teacher teaching a 10-15 minute lesson of his/her choice to approximately five pupils from his/her class.

c. A 20 to 30 minute conference was held immediately at the end of the first teaching. The tape was reviewed to reinforce those times when the teacher demonstrated teaching with enthusiasm. Changes and recommendations for the re-teach were planned at this time. Immediately at the end of the conference the teacher retaught the same lesson to five different pupils from his/her class incorporating the recommendations and changes.

4. Final Session

The total Experimental Group met on the final Friday of the two-week session in order to view some of the video-taped teach and re-teach micro-teaching sessions (with students' permission). Feedback from students on the training was received at this time.

Procedures for Collecting Data

Data were gathered on the eight variables of teacher behaviors on each preservice teacher in both the Experimental and Control Groups by the following procedures:

1. The week prior to training, video-taped the preservice teachers (both E and C groups) teaching a 20-30 minute lesson of their choice.

2. The Experimental Group completed the mini-course (training intervention) on teacher enthusiasm (described on pp. 12 - 14).

3. Video-taped the preservice teachers (both E and C groups) teaching a 20-30 minute lesson of their choice in their classrooms the week after training was completed.

4. Three weeks later the subjects in the Experimental and Control groups were again video-taped teaching a 20-30 minute lesson of their choice in their classrooms to see if they could maintain a displayed increased level of teacher enthusiasm.

5. Two observers were trained to use the raters' tally sheet based on low, medium, high descriptors for each of the eight variables that define teacher enthusiasm.
6. After the two observers had obtained reliability of .90, they each rated the sixty tapes without knowing which preservice teachers were in the Experimental or Control groups or the order of the taping. The ratings were based on a five-point scale anchored by the poles of the dimensions. A score of five on one of the variables that conveyed teacher enthusiasm meant that the subjects received the highest rating on that variable, three was medium and one was low. The observers were trained to stop the tape at two-minute intervals and rate the subject on each of the eight variables. There were ten scores for each variable.

PROCEDURES FOR ANALYZING THE DATA

1. At the completion of the ratings a total for each tape was obtained by adding the scores (10) for each variable and finding the overall total by summing the totals of the eight variables. Where there was a discrepancy in the scores between the raters the lower score was consistently used by the researcher.
2. These overall totals were grouped and arranged in a table in order to more readily observe the differences in the raw scores between the Experimental and Control Groups on the pretest, posttest I and posttest II.
3. In order to obtain more useful knowledge about these raw totals, and their dispersion, means and standard deviations were computed to compare the Experimental and Control Groups.

4. To find out whether preservice elementary teachers did demonstrate a significant increase in their observable level of enthusiasm while teaching after training, a two-factor mixed design repeated measures on one factor (Winer, 1962) was used.

5. After determining that the overall performance of the subjects had changed, tests on simple effects were used to determine whether the Experimental Group differed from the Control Group during observation 1, observation 2, and observation 3.

6. Since there was a decrease in the total scores within the Experimental Group on posttest I and II a t-test was necessary to determine if this decrease was significant.

7. After completing the above procedures the raw score totals for the experimental and control Groups on each of the eight variables were summarized.

8. Means and standard deviations, two-factor mixed design repeated measures on one factor, tests of simple effects and t-tests were also computed for each category to assess its significance.

9. The intercorrelations between variables were obtained by using the Pearson Product Moment Correlation. Intracorrelations were obtained by using the Split-halves Coefficients.

Report of Findings

A summary of the raw scores is reported in Appendix E and Appendix F. Appendix E presents the over-all totals of each subject in teacher enthusiasm on the pretest and posttests. Appendix F presents the totals for each of the eight categories for each subject on the pretest and posttests.

Means and Standard Deviations

The mean scores and standard deviations for the Experimental and Control Groups on the pretest, posttest I and posttest II are reported in Table 1.

An inspection of this table indicates that the Experimental Group not only increased in its over-all displayed level of teacher enthusiasm after training, but the subjects tended to display a greater degree of variance in their performances during the posttests.[1]

The subjects within the Control Group tended to resemble each other more and more in their displayed levels of teacher enthusiasm during the posttests.

In order to further describe these variables correlations were computed.

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[1] The average scores of the Experimental Group during posttest II on the variables vocal, eyes, facial expression and over-all energy decreased. However, the differences between the subjects on these variables increased from posttest I to posttest II. The Experimental Group demonstrated a decrease in its observable performance in teacher enthusiasm between posttest I and posttest II.

Another interesting observation of this table is to note the 0.0 standard deviation of the Experimental Group during the pretest on variable-body movements. This happened because each of the ten subjects received the same score (the lowest).

Table 1

COMPARISON OF THE MEAN SCORES AND STANDARD DEVIATIONS IN TEACHER ENTHUSIASM OF THE EXPERIMENTAL AND CONTROL GROUPS

		Pretest		Posttest I		Posttest II	
		M	SD	M	SD	M	SD
Variables							
Vocal	E	13.3	5.5	35.0	5.6	29.0	6.2
	C	14.5	6.5	17.1	5.5	14.6	5.0
Eyes	E	12.6	5.0	33.3	8.4	26.2	9.7
	C	13.4	7.7	16.1	5.7	16.4	5.6
Gestures	E	14.1	5.5	26.8	9.8	18.8	5.7
	C	12.2	4.4	14.5	3.7	14.5	5.3
Movements	E	10.0	0.0	20.6	7.2	15.3	6.7
	C	10.2	0.6	10.7	1.2	10.5	1.1
Facial Expression	E	12.4	4.2	32.8	10.4	27.4	11.8
	C	13.4	6.1	16.2	5.8	15.7	5.4
Word Selection	E	10.8	1.4	24.0	9.7	16.5	4.6
	C	10.5	1.6	10.6	1.3	10.6	1.6
Acceptance of Ideas	E	13.6	5.9	33.5	7.4	22.7	7.0
	C	13.7	6.4	16.9	4.8	16.1	6.6
Over-all Energy	E	12.1	4.2	31.6	5.8	25.3	7.8
	C	12.4	3.9	12.9	4.4	13.7	5.3
Total Scores	E	98.9	26.6	238.6	54.5	181.3	47.1
	C	100.3	32.6	114.6	26.6	112.2	23.1

The results revealed the variables to be quite similar in reliability. For example, the reliability for the separate variables for posttest I ranged from .84 for gestures to .93 for eyes, word selection and over-all energy. The subjects displayed greater variance on each of the eight variables after training. The high reliability coefficients which indicated that the variables were maintaining their consistency across different testing periods also established the reliability of the instrument.

Differences Between the Experimental and Control Groups

One of the major purposes of this study was to determine the effects of training in enthusiasm on the Experimental Group as contrasted with the Control Group which received no training.

It is obvious from Appendices E and F that the Experimental Group did increase in its over-all performance after training. However, was this increase significant in comparison to the Control Group? To answer this question a two-factor repeated measure design was used.

The data are summarized in Table 2. The results show a significant and interesting interaction between the three observations and the observable increased level of teacher enthusiasm. Figure 1 which graphically depicts this is also included.

Table 2

SIGNIFICANCE OF THE OVER-ALL OBSERVED PERFORMANCES OF THE EXPERIMENTAL AND CONTROL GROUPS

Source	SS	df	MS	F	Over-all p
Total	234,641.0	59			
Between Subjects	108,931.6	19			
Teacher Enthusiasm, E & C Groups	61,120.4	1	61,120.40	23.01	< .001
Error	47,811.2	18	2,656.18		
Within Subjects	115,009.4	40			
Observations	60,430.2	2	30,215.10	71.64	< .001
Observations x Teacher Enthusiasm	39,395.7	2	19,697.82	46.70	< .001
Error	15,183.5	36	421.76		

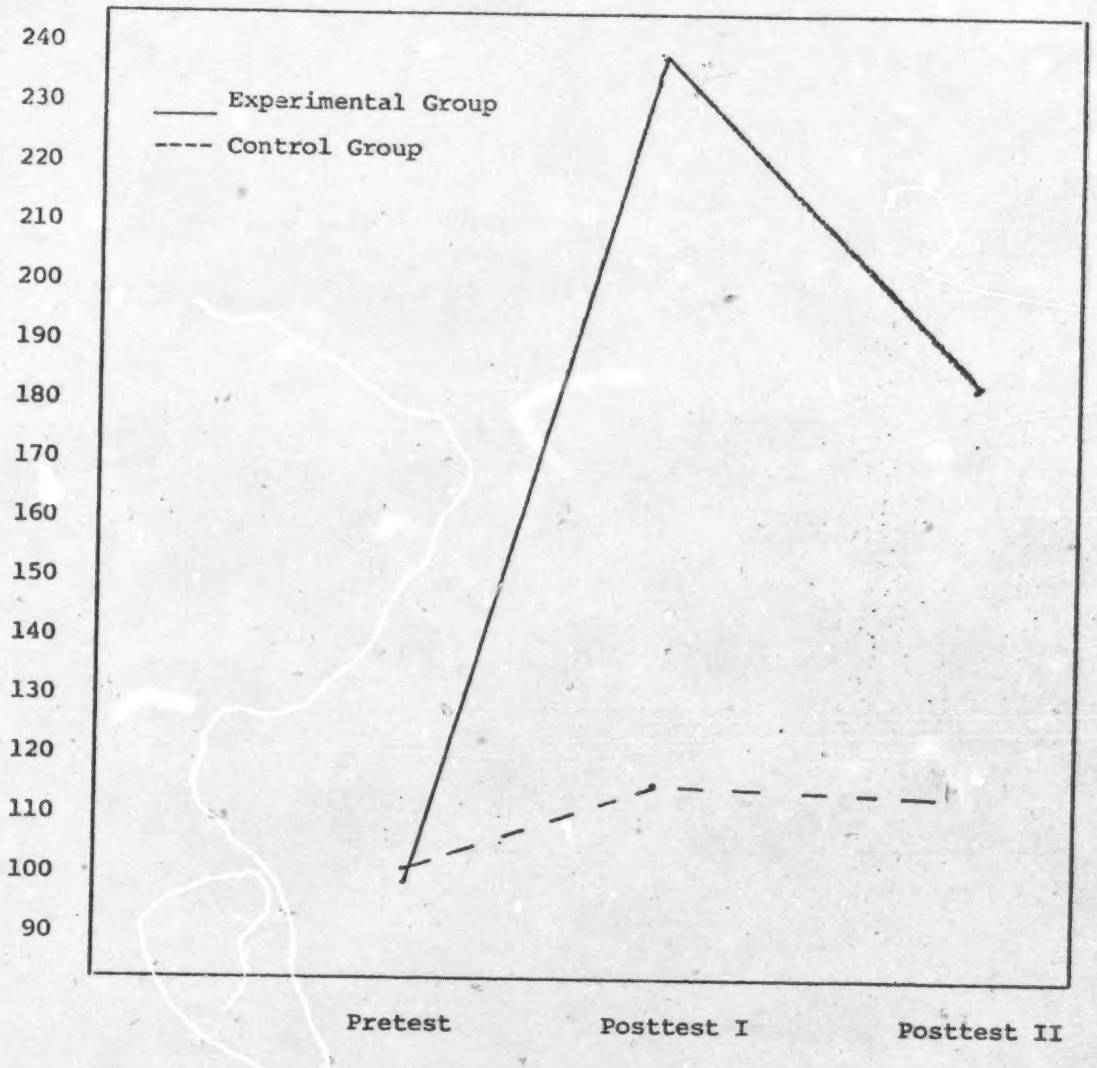

Fig. 1. Mean ratings of increased performance by Groups in teacher enthusiasm. (E = Experimental; C = Control)

As predicted, the preservice teachers in the Experimental Group demonstrated an over-all significant increase in their displayed level of teacher enthusiasm as compared to the preservice teachers who received no specific training in teacher enthusiasm. $F(1, 18) = 23.01$, $p < .001$. Thus, the first hypothesis was supported.

The data also demonstrated that the over-all tendency of the preservice teachers was to change in their performance level over the three observation testing periods, $F(2, 36) = 46.70$, $p < .001$.

Figure 1 illustrates that the Experimental Group whose mean scores were slightly lower than the Control Group during the pretest observations sharply increased in its level of performance in teacher enthusiasm on posttest I and had a distinct decrease in performance on posttest II.

To determine whether the Experimental Group maintained this increased level of performance three weeks after training (H_2), tests of simple effects were used. This demonstrated that there was no significant difference between the Experimental and Control Groups on the pretest. It did establish that there was a significant difference between both groups on posttest I ($<.001$) and posttest II ($<.001$).

There was no significant difference in the Control Group among the three observation periods. Most importantly this analysis

supported Hypothesis 2 by indicating a significant retention in the increased level of performance on enthusiasm of the Experimental Group while teaching three weeks after training.

As was anticipated, the performance level in teacher enthusiasm of the Experimental Group did increase significantly between the pretest and both posttests as compared to the performance level of the Control Group. However as depicted in Figure 1 there appeared to be a sharp decline in the level of enthusiasm between posttest I and II of the Experimental Group. To determine the significance of this regression t-tests between two correlated means were used. This test demonstrated an important decrease in the level of performance in teacher enthusiasm of the preservice teachers in the Experimental Group three weeks after training. The reason for this significant decrease in the overall level of performance in teacher enthusiasm of the Experimental Group is difficult to explain. It may be that the preservice teachers are leveling off from the immediate effects of the training. It is obvious from Figure 1 that the Control Group did not vary significantly from one treatment time to the next and possibly the Experimental Group would not vary significantly if they were again observed in another six weeks. However, if over time the subjects continued to decrease in their observable level of teacher enthusiasm then this would have implications for inservice education.

Differences Among the Eight Variables

Results from the analyses on each variable indicate that the performance of the preservice teachers in the Experimental Group in each category--vocal, eyes, gestures, movements, facial expression, word selection, acceptance of ideas and feelings, and over-all energy--showed a significantly greater increase over the performance of the preservice teachers in the Control Group. The results in each category were significant beyond the .001 level.

There was no significant difference between the E and C Groups in each of the eight variables on the pretest. All of the variables were significant beyond the .001 level on posttest I. Seven of the variables showed evidence of a significant difference between the Experimental and Control Groups during posttest II but at different levels of significance. Gesturing was not significantly different during posttest II. Eyes, facial expression, word selection were significant at the .01 level while movements and acceptance of ideas and feelings were significant at the .001 level on posttest II.

None of the variables demonstrated a significant difference between the observation periods for the Control Group. Except for gesturing, the performance of the Experimental Group in the other variables was maintaining a significant increased level three weeks after training.

Again there was a distinct decrease in the Experimental Group in each variable three weeks after training. Remember that over-all, the observable performance of the Experimental Group did decrease significantly on posttest II as compared to its posttest I, but was maintaining a significant increase in teacher enthusiasm when compared to the Control Group. A study of the data indicate that six of the variables did decrease significantly, thus contributing to the significant over-all decrease in the performance of the Experimental Group on posttest II. Interestingly, movements and facial expression were the two variables which were retaining their significant increased level between posttest I and posttest II.

Conclusions

Taken in its entirety, the data from the various analyses present a rather strong case that it is possible to train a preservice teacher to increase his/her level of teacher enthusiasm as described by the eight variables. The two-factor mixed designs, tests of simple effects, and t-tests of correlated means demonstrate that the over-all performance of the Experimental Group significantly increased after training and that each of the variables contributed significantly to this increase. It should also be stressed that the rating instrument of the variables possesses sufficient reliability to be used in studies of teacher enthusiasm involving comparisons of other preservice teachers.

In vocal, eyes, facial expression, and over-all energy, the subjects displayed a greater variance within the group three weeks after training than immediately after training. In other words, some of the subjects remained fairly stable while others moved farther away. This could be due to either: 1) some of the preservice teachers gaining increased confidence while teaching and being able to demonstrate an observable increase in these variables, or 2) possibly some of the subjects observed these as their strong points when viewing their videotapes and continued to increase. Plus, the converse could also be true. They could have observed that these were weak areas and were concentrating on increasing the displayed level of these four variables.

Another consideration could be that performance in these four teacher behaviors distinguish teachers one from another. Putting this another way would be to suggest that with some of the variables increased teaching experience results in teachers becoming more alike. An example of this was word selection where the standard deviation decreased 5.1. A possible conclusion is that the preservice teachers are learning the language of teachers and becoming more alike. The questions to consider are: is this accept-

able in terms of the level of student achievement? Is the word selection used by teachers adequate? Certainly this topic needs further study.

Since the inter-rater reliability was .90, it appears that a high inference measure - teacher enthusiasm - could be more readily identified when it was described by increasingly lower inference variables--the eight descriptors of teacher behaviors. More refinement is needed on describing and measuring these categories.

Even though this was an experimental rather than a predictive study, the significance of the results seems to have implications for teacher preparation programs. While validation of the intervention is needed, the results of this study tend to support the use of the identified training intervention as an effective teacher training vehicle.

Implications for Future Research

Replication of this study and/or further research using the eight variables based on larger randomly selected samples could be beneficial and worthy of the effort. Studying the relationship between the verbal and nonverbal clusters of teaching behaviors and their effect on the level of a teacher's enthusiasm may add further to research in teacher characteristics.

Additional studies could be undertaken with a particular focus on the training intervention developed in this study. It may be noteworthy to determine if a

given teaching population could significantly increase its level of teacher enthusiasm by studying the variables and descriptors of teacher enthusiasm alone, peer teaching alone, or micro-teaching alone, or a combination of two of the above. Additional studies could be done with secondary preservice teachers and with inservice teachers. If the level of teacher enthusiasm of the Experimental Group continued to decrease over periods of time, this could have implications for inservice teacher training. In other words, it may be necessary to periodically have workshops or some form of reinforcement in order to maintain a desired level of teacher enthusiasm.

With replication to other samples or multiple samples for the purpose of establishing the validity of extending the findings to other populations, as well as the validity of extending the findings to all preservice teacher training programs, one then would be in a position to draw clearer implications of this study for the training of preservice teachers.

It is important to recall that while further research is needed in this area, some studies indicated that increasing the observable level of enthusiasm in a

teacher would result in an increase in the students' ability to achieve in the classroom. It is hoped this study will stimulate additional research, not only in studying the effect of the training in enthusiasm on teachers, but also the effect, if any, on the level of learning by the students in the classes of the teachers who had undergone this training.

Finally, it is important to note that this study does not conclude that all teachers should attain a specified level of teacher enthusiasm to be effective. It is hoped that a minimal standard would be maintained. This researcher feels rather strongly that the average or three on the rating scale of the eight variables should be the minimal acceptable standard in teacher enthusiasm for teachers. It does, however, suggest that preservice elementary teachers are able to increase their displayed level of teacher enthusiasm through training. An interesting step beyond the scope of this study would be to have preservice teachers, after undergoing the enthusiasm training intervention, receive training in awareness of when to modulate teacher enthusiasm with their students (individually or in groups) in an effort

to provide a more effective learning environment for pupils.

This study accepted the premise that teachers displaying an acceptable to high level of teacher enthusiasm would have a better learning environment in their classes than teachers who do not. The preservice teachers during the training sessions were encouraged to display the highest level of teacher enthusiasm even to exaggerate.

Demonstrating the highest level in each of the eight variables was stressed during training because the researcher was aware that when each subject would be teaching in a full classroom other variables would intervene to decrease the observable level of teacher enthusiasm. Thus, none of the trained subjects demonstrated such high teacher enthusiasm that they appeared to be "cheerleaders" in the classroom.

During the reteach of the micro-teaching sessions each subject was pleased by his/her observable improvement in teacher enthusiasm over their previous teaching during training. They stated that they felt the lesson went smoother and they received a better response from their pupils. This not only encouraged

them but provided a "genuineness" in their display of teacher enthusiasm.

This researcher believes that if a teacher's main concern is for pupils to learn then he/she will use every competency he/she possesses to achieve this goal.

It is hoped that this study, while providing data about one preservice training module, will stimulate further research and more systematic, more scientific approaches to the identification and training of preservice teachers in those teacher characteristics that seem to be effective in helping students to learn.

APPENDICES

APPENDIX A

DEFINITIONS OF THE EIGHT VARIABLES OF TEACHER BEHAVIORS THAT DESCRIBE TEACHER ENTHUSIASM

List of variables (indicators, behaviors) that communicate high teacher enthusiasm:

1.	Vocal Delivery	rapid, excited speech; varied, lilting, uplifting intonations; great and sudden changes in tone, pitch
2.	Eyes	dancing, snapping, shining, lighting up, open wide
3.	Gestures	frequent demonstrative movements of the body, head, arms, hands and face
4.	Movements	large body movements, swings around, changes pace, bends body
5.	Facial Expression . . .	changes denoting surprise, sadness, joy, thoughtfulness, awe
6.	Word Selection	highly descriptive, many adjectives, great variety
7.	Acceptance of Ideas and Feelings	quickly with vigor and animation, ready to accept, praise, encourage or clarify in a non-threatening manner
8.	Over-all Energy Level	explosive, exuberant

APPENDIX B

A RATING SCALE FOR THE EIGHT VARIABLES

DESCRIPTORS FOR THE EIGHT VARIABLES THAT CONVEY ENTHUSIASM

	1	2	3	4	5
	Low		Medium		High
1. Vocal Delivery	Monotone voice, minimum vocal inflection, little variations in speech, drones on & on & on, poor articulation.		Pleasant variations of pitch, volume & speed, good articulation.		Great & sudden changes from rapid excited speech to a whisper. Varied lilting, uplifting intonation. Many changes in tone, pitch.
2. Eyes	Looked dull or bored. Seldom opened eyes wide or raised eyebrows.		Appeared interested. Some changes to lighting up, shining opening wide.		Characterized as dancing, snapping, shining, lighting up frequently opening wide, eyebrows raised.
3. Gestures	Seldom moved arms out or outstretched toward person or object. Never used sweeping movements, kept arms at side or folded across body, appeared rigid.		Often pointed with hand, using total arm. Occasionally used sweeping motion using body, head, arms, hands & face. Steady pace of gesturing is maintained.		Quick & demonstrative movements of body, head, arms, hands & face, i.e., sweeping motions, clapping hands, head nodding rapidly.
4. Body Movements	Seldom moved from one spot or movement mainly from a sitting position to a standing position.		Moved freely, slowly & steadily.		Large body movements, swung around, walked rapidly, changed pace, unpredictable, energetic.

	1	2	3	4	5
	Low		Medium		High
5. Facial Expression	Appeared deadpan, doesn't denote feeling or frowned most of the time. Little smiling or a one-second lips upturned. Lips closed.		Agreeable, smiled frequently & longer plus at a regular rate. Looked pleased, happy, sad when obviously called for.		Appeared vibrant, demonstrative, showed surprise, awe, sadness, joy, thoughtfulness, excitement. Total smile--mouth opened wide, quick & sudden changes in expression.
6. Word Selection	Mostly nouns, few descriptors/adjectives.		Some descriptors/ adjectives or repetition of the same ones.		High descriptive, many adjectives, great variety.
7. Acceptance of Ideas and Feelings	Little indication of acceptance or encouragement, may ignore student's feelings or ideas.		Accepts ideas & feelings, praises or clarifies, some variations in response but frequently repeats same ones.		Quick & ready to accept, praise, encourage or clarify, many variations in response. Vigorous nodding of head when agreeing.
8. Over-all Energy Level	Lethargic, appeared inactive, dull or sluggish.		Some variations from high to low in appearing energetic, demonstrative but mostly an even level is maintained.		Exuberant. Maintained high degree of energy & vitality, highly demonstrative, great & sudden changes in voice, tone, pitch; eye, head arm & body movements.

APPENDIX C

PEER TEACHING OBSERVER-RATING SHEET

PEER TEACHING OBSERVER-RATING SHEET

(✓) check the appropriate column:

VARIABLES	Low	Medium	High	Comments
1. Vocal				
2. Eyes				
3. Gestures				
4. Movements				
5. Facial Expression				
6. Word Selection				
7. Acceptance of Ideas & Feelings				
8. Over-all Energy Level				

APPENDIX D

RATER'S TALLY SHEET

RATER'S TALLY SHEET ON TEACHER ENTHUSIASM

Name of Rater _____ Code No. of Tape _____

Variables	Intervals (2 minutes)									
	1	2	3	4	5	6	7	8	9	10
1. Vocal										
2. Eyes										
3. Gestures										
4. Movements										
5. Facial Expression										
6. Word Selection										
7. Acceptance of Ideas & Feelings										
8. Over-all Energy Level										

Key:
5 high enthusiasm conveyed
4
3 medium enthusiasm conveyed
2
1 low enthusiasm conveyed

APPENDIX E

OVER-ALL RAW SCORE TOTALS FOR TEACHER ENTHUSIASM FOR EACH SUBJECT IN EXPERIMENTAL AND CONTROL GROUPS DURING OBSERVATIONS

OVER-ALL RAW SCORE TOTALS FOR TEACHER ENTHUSIASM FOR EACH SUBJECT IN EXPERIMENTAL AND CONTROL GROUPS DURING OBSERVATIONS

Experimental Group			
Subjects	Pretest[a]	Posttest I[b]	Posttest II[c]
1	109	278	234
2	132	189	155
3	158	265	255
4	80	225	162
5	84	208	131
6	80	146	120
7	82	277	207
8	80	194	135
9	90	322	218
10	94	282	196

Control Group			
Subjects	Pretest	Posttest I	Posttest II
1	183	118	104
2	80	106	83
3	80	106	111
4	120	164	151
5	82	142	123
6	88	97	136
7	95	144	122
8	114	96	122
9	80	91	86
10	81	84	84

[a] Prior to any training.

[b] Immediately after training.

[c] Three (3) weeks after the completion of training.

APPENDIX F

RAW SCORE VARIABLE TOTALS FOR EACH SUBJECT

IN BOTH GROUPS DURING OBSERVATIONS

RAW SCORE VARIABLE TOTALS FOR EACH SUBJECT IN BOTH GROUPS DURING OBSERVATIONS

Experimental Group

	Observations							
Subjects	I II III	I II III	I II III	I II III	I II III	I II III	I II III	I II III
1	11 38 30	12 44 44	18 34 24	10 26 10	13 40 46	12 30 24	22 34 24	11 32 32
2	20 33 24	15 31 20	20 19 15	10 15 15	20 19 21	12 12 18	15 26 20	20 24 22
3	26 40 38	26 40 40	26 20 27	10 25 20	16 40 46	14 30 17	20 36 30	20 34 37
4	10 34 31	10 41 20	10 22 12	10 12 16	10 42 18	10 12 19	10 30 24	10 32 22
5	10 29 29	12 27 18	10 20 18	10 14 15	12 17 12	10 35 10	10 37 14	10 29 15
6	10 24 20	10 18 21	10 17 12	10 13 10	10 19 20	10 12 10	10 22 12	10 21 14
7	10 37 36	10 39 33	10 34 13	10 17 14	10 39 34	10 31 16	12 42 33	10 38 28
8	10 33 20	10 25 15	10 21 20	10 11 11	10 32 19	10 16 14	10 25 16	10 31 20
9	12 40 28	11 38 24	13 47 26	10 47 32	11 42 26	10 29 22	13 40 28	10 39 32
10	14 42 34	10 30 27	14 34 21	10 26 10	12 38 32	10 33 15	14 43 26	10 36 31
Variable	Vocal	Eyes	Gestures	Movements	Facial Expression	Word Selection	Acceptance	Over-All Energy
	1	2	3	4	5	6	7	8

Control Group

	Observations							
Subjects	I II III	I II III	I II III	I II III	I II III	I II III	I II III	I II III
1	10 18 20	10 10 17	10 18 12	10 12 10	10 10 12	10 10 10	10 18 10	10 10 20
2	20 24 26	22 26 24	11 20 12	10 10 10	21 26 21	10 14 15	12 24 18	14 20 25
3	29 21 11	30 16 15	23 11 13	10 10 12	28 17 18	15 12 10	26 19 13	22 12 12
4	10 11 12	10 20 10	10 10 10	10 10 10	10 20 11	10 10 10	10 15 10	10 10 10
5	10 12 14	11 16 20	10 10 29	10 10 10	13 15 13	10 10 10	14 14 30	10 10 10
6	10 23 15	10 23 21	11 16 14	10 10 10	11 23 15	10 10 11	10 21 20	10 16 17
7	15 24 14	10 18 13	17 17 15	10 13 10	10 19 24	10 10 10	10 22 23	13 21 13
8	20 14 14	11 11 24	10 13 13	12 10 13	11 12 23	10 10 10	25 16 15	15 10 10
9	10 12 10	10 11 10	10 18 14	10 12 10	10 10 10	10 10 10	10 10 11	10 10 10
10	11 12 10	10 10 10	10 12 13	10 10 10	10 10 10	10 10 10	10 10 11	10 10 10
Variable	Vocal	Eyes	Gestures	Movements	Facial Expression	Word Selection	Acceptance	Over-All Energy
	1	2	3	4	5	6	7	8

[a]Pretest--prior to any training. [b]Posttest I--immediately after training.

[c]Posttest II--three (3) weeks after training.

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